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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,825	03/22/2004	John D. Bass	02307V-133910US	4243
20350	7590	09/15/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			PASTERCZYK, JAMES W	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/806,825

Applicant(s)

BASS ET AL.

Examiner

J. Pasterczyk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. This Office action is in response to the filing of 3/22/04.
2. The examiner notes that the specification refers to quite a few prior art references, including 44 footnoted references. Applicants are reminded of their duty to disclose under 37 CFR 1.56. References important enough to be included in the disclosure are surely important enough to patentability that they should be cited on a PTO-1449 form and provided to the examiner.
3. The abstract of the disclosure is objected to because it uses non-standard terminology and should be amended in line with the amendments required of claim 1 below. Correction is required. See MPEP § 608.01(b).
4. The drawings are objected to because in figure 3, part 12, not all of the coefficients are properly subscripted, and in part 11, it is not clear what the connectivity of the heavy atoms is. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. Claims 1-16, 18, 30-34, 36, and 38-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 1-4 are written in generally functional language, e.g. "functional moieties (sic) to be imprinted", "thermally labile protecting groups", "moiety capable of serving as a linker". Such functional language is considered to be overbroad in that only the specific functional groups which applicants disclose as being known at the time of filing of the application to be capable of fulfilling the role assigned to them are actually enabled since chemistry is considered to be an unpredictable art and catalysis even moreso. Hence the presently-rejected claims are considered to fail the written description requirement.

6. Claims 1-16, 18, 30-34, 36 and 38-42 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the "thermally labile protecting groups" to be carbamates or xanthates, and the "moiety capable of serving as a linker" to be apparently a trialkoxysilane, does not reasonably provide enablement for either of these groups to be anything else. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. As noted in paragraph 5 above, the present disclosure is limited to only a few specific examples of functional groups which perform the functionally described

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tasks as recited in the present claims, hence the present claims are considered to be overbroad and hence not sufficiently enabled in this unpredictable catalysis art.

7. Claims 1-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7, 56-61, it is not clear what is meant by a "bulk" inorganic oxide; is this a monolith, or some macroscopic shape? In addition, "functional moieties" would be more accurately phrased --functional groups-- throughout the claims.

Further in claim 56, in l. 2 insert --the group consisting of-- after "selected from" for proper closed Markush language.

In all the claims, the term "imprinted" is used in a manner inconsistent with conventional prior art terminology; see USP 5,310,648 and 5,110,833 as well as Chem. Commun., 1999, 2481-2482 as cited on the enclosed PTO 892 form. A more correct term here would be "functionalized surface" or "substrate having surface functional groups" since what appears to be the final material is simply an inorganic oxide having various functional groups on its surface.

Throughout claims 1-4, it is not clear whether the moieties "capable of" serving as a linker actually do so as suggested by the figures. In claim 1, l. 1, "imprinted with" would be better phrased --incorporating--; in l. 6 insert a comma after "inorganic oxide", in l. 7 insert --an-- after "comprising"; in l. 8 change "a thermally labile portion" to --said thermally labile protecting groups-- for proper antecedent basis. The claim also needs a period at the end. All of claims 1-4 require amendment in this general manner.

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Further in claim 2, third line from the end, insert --inorganic-- before “oxide” (first instance).

Further in claim 3, l. 3, “the organic oxide” lacks antecedent basis.

In claim 5, last line should read in part --or mixtures thereof--.

In claims 10 and 46 it is not clear on what scale the surface is to be viewed to determine whether it is “generally planar”.

In claim 17, amine and thiol are complete compounds, not functional groups; alternative language should be found for these two functional groups.

In claim 31, it is not clear how this claim is consistent with claims 1 or 30, since claims 1 and 30 are silent on the presence of amino or thiolate groups as well as metal ions or semiconductors.

In claim 47, the last line should read in part --or mixtures thereof--.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 43-48 and 52-61 are rejected under 35 U.S.C. 102(b) as being anticipated by Dai et al., USP 6,251,280 (hereafter referred to as Dai).

Dai discloses the invention as claimed (figures 1A, 1B, 3, 4; col. 6, l. 8-48; col. 9, l. 55-67; col. 11, l. 5-44).

10. Claims 43-48 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward, USP 5,885,924 (hereafter referred to as Ward).


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Ward discloses the invention as claimed (abstract; col. 2, l. 15) since all the current claims are is silica with surface hydroxyl groups bonded thereto.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**ANTHONY J. GREEN**  
**PRIMARY EXAMINER**



J. Pasterczyk

AU 1755

9/6/05